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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/771,109	01/26/2001	Yoshiharu Terawaki	81868.0022	7008

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EXAMINER

LAM, THANH

ART UNIT PAPER NUMBER

2834

DATE MAILED: 09/13/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/771,109

Applicant(s)

Terawaki

Examiner

Thanh Lam

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on May 28, 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☒ The proposed drawing correction filed on May 28, 2002 is: a) ☒ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

*See the attached detailed Office action for a list of the certified copies not received.

- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____
- ☐ Interview Summary (PTO-413) Paper No(s). _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other:

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DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. New Claims 17-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Nii et al.

Regarding claim 17, Nii et al. disclose a motor comprising: a radial dynamic pressure bearing section (6b) between a rotor (2) and a stator (4); a thrust magnet unit (7b) formed on the rotor and the stator (7a); and a magnetic shield device (15) provided between the thrust magnet unit and the radial dynamic pressure bearing section for isolating the radial dynamic pressure bearing section from a leak magnetic flux of the thrust magnet unit.

Regarding claim 18, Nii et al. disclose the magnetic shield device is formed from a magnetic absorbing member that absorbs the leak magnetic flux from the thrust magnetic unit.

Regarding claim 19, Nii et al. disclose the magnetic shield device comprises an insertion member that spaces a distance between the thrust magnet unit and the radial dynamic pressure bearing section, and the insertion member is provided on a mounting member that is integrally formed with at least one of the rotor and the stator on which the thrust magnet unit is formed.

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Regarding claim 20, Nii et al. disclose a dynamic pressure is generated in a lubrication fluid between the rotor and the stator to thereby rotatably support the rotor with respect to the stator and the lubrication fluid is one selected from a group consisting of air and oil.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Prior art (figs. 4 and 5 of the application) in view of Nii (Pn. 5,574,322)

Prior art discloses a motor comprising: a radial dynamic pressure bearing section (3a), the radial dynamic pressure bearing section including opposing radial dynamic pressure surfaces (formed between 2a and 3a) formed on a rotor (33) and a stator (20) in which a dynamic pressure is generated in a lubrication fluid between the radial dynamic pressure surfaces to thereby rotatably support the rotor with respect to the stator; thrust magnets (2b,3c) mounted on the rotor and the stator in a manner to oppose to each other for generating a magnetic action to levitate the rotor in an axial direction thereof and rotatably support the rotor in a thrust direction thereof with respect to the stator and a magnetic shield device (holding magnet 2b in fig. 5) provided between the thrust magnets and the radial dynamic pressure bearing section. However, the Prior art does

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no teach the magnetic shield device can be isolating the radial dynamic pressure bearing section from a leak magnetic flux of the thrust magnets.

Nii et al. disclose a magnetic shield device (15 fig. 6) for the purpose of isolating or absorbing a leak magnetic flux of thrust magnets (col. 5, lines 45-62).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the arrangement of the thrust magnets and the magnetic shield device of the Prior art and by inserting the magnetic shield device as taught by Nii in order to improve the device in eliminating the leak of the magnetic flux of the thrust bearing magnet.

Regarding claims 2 and 10, it is note that Nii et al. disclose the magnetic shield device is formed from a magnetic absorbing member that absorbs the leak magnetic flux from the thrust magnets (col. 5, lines 45-62).

Regarding claims 3, and 11, it is note that Nii et al. disclose the magnetic absorbing member is formed from a yolk member (15 is obvious made from high permeability material such iron in order to be functioning absorbing or concentrated a magnetic flux) having a magnetic permeability greater than a magnetic permeability of a mounting member (the holder of the magnet 2b of prior art that is low in permeability material, therefore, it cannot isolate the leak magnetic flux of the thrust bearing) provided on at least one of the rotor and the stator on which the thrust magnets are mounted.

Regarding claims 4 and 12, it is note that an insertion member (15 of Nii et al.) that spaces a distance (see a space formed between 2a and 3a of fig. 5 of Prior art) between the thrust

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magnets and the radial dynamic pressure bearing section, and the insertion member is formed in one piece with a mounting member provided on at least one of the rotor and the stator on which the thrust magnets are provided.

Regarding claims 5 and 13, it is note that Prior art shows on fig. 4 the rotor is an outer rotor (3) type in which the rotor is disposed outside the stator (2) in a radial direction thereof.

Regarding claims 6 and 14, prior art discloses the thrust magnets are to disposed inside the radial dynamic pressure bearing section in the radial direction, and the magnetic shield device is disposed between the thrust magnets and the radial dynamic pressure bearing section in the radial direction to prevent the magnetic flux of the thrust magnets from affecting the radial dynamic pressure bearing section.

Regarding claims 7 and 15, prior art discloses the stator has a fixed shaft (2a), the rotor is disposed about an outer periphery of the fixed shaft, a bearing sleeve (3a) that forms the radial dynamic pressure bearing section is disposed between the fixed shaft and the rotor, and the thrust magnets are mounted inside the fixed shaft and inside the radial dynamic pressure bearing section.

Regarding claims 8 and 16, the proposal in combination of prior art and Nii et al. disclose a dynamic pressure is generated in a lubrication fluid between the rotor and the stator to thereby rotatably support the rotor with respect to the stator and the lubrication fluid is one selected from a group consisting of air and oil.

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Regarding claim 9, Prior art discloses a motor having a rotor (3) and a stator (2), the motor comprising: a radial dynamic pressure bearing section (formed between 2a and 3a of fig. 5) formed between the rotor and the stator, a thrust magnet unit (2b,3c) formed on the rotor and the stator for generating a magnetic action to levitate the rotor in an axial direction thereof and rotatably support the rotor in a thrust direction thereof with respect to the stator and a magnetic shield device (holding magnet 2b in fig. 5) provided between the thrust magnet unit and the radial dynamic pressure bearing section. However, the Prior art does not teach the magnetic shield device can be isolating the radial dynamic pressure bearing section from a leak magnetic flux of the thrust magnet unit.

Nii et al. disclose a magnetic shield device (15 fig. 6) for the purpose of isolating or absorbing a leak magnetic flux of the thrust magnet unit (col. 5, lines 45-62).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the arrangement of the thrust magnet unit and the magnetic shield device of the Prior art and inserting the magnetic shield device as taught by Nii et al. That provides an improvement of the magnetic shield by eliminating the leak of the magnetic flux of the thrust magnet unit.

Response to Arguments

5. Applicant's arguments filed 5/28/2002 have been fully considered but they are not persuasive.

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In response to applicant's argument that neither prior art and nor Nii et al. figs. 4 and 5, teach "a magnetic shield device provided between the thrust magnets (magnet unit) and the radial dynamic pressure bearing section for isolating the radial dynamic pressure bearing section from a leak magnetic flux of the thrust magnet unit"

first of all, the examiner cited the magnet device (15) in fig. 6 not in figs. 4 and 5 as indicated by the Applicant's argument, finally, The examiner submits that Nii et al. disclose a magnetic shield device (15 fig. 6) provided between the thrust magnet unit (7a and 7b) and the radial dynamic pressure bearing section (6b) for isolating the radial dynamic pressure bearing section from a leak magnetic flux of the thrust magnets. In respect to the device 15 of Nii et al. used for isolating/concentrating/ eliminating the leakage magnetic flux of the magnets 7a and 7b from leaking out, and the flux is not leaking to the bearing 6b. Therefore, the Nii et al. reference read on the laminations of the claimed language.

Conclusion

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period

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will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thanh Lam whose telephone number is (703) 308-7626. The fax phone number for this Group is (703) 305-3431.

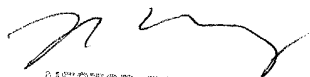
Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0656.



Thanh Lam

Patent Examiner

Sept. 11, 2002



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